

### **REMARKS**

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

### **PRESENT APPLICATION EXAMINER INTERVIEW ACKNOWLEDGED**

This paper is responsive to the examiner interview conducted 03 August 2006, by and between (as indicated on the Interview Summary document) assigned Examiner Jeff Piziali, and attorney Paul J. Skwierawski. More particularly, any foregoing amendments may include amendments discussed during, or resultant from, the examiner interview, and the following includes a reiteration of discussions/arguments had during the examiner interview.

### **NON-FINAL FIRST OFFICE ACTION**

During the aforementioned examiner interview, it was agreed by the Examiner that if the present RCE was filed with claim amendments, then the Examiner would not make a first action final. The Examiner is thanked for such agreement.

### **PENDING CLAIMS**

Claims 1-22 were pending, under consideration and subjected to examination in the Office Action. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes are unrelated to any prior art or scope adjustment and are simply refocused claims in which Applicant is present

interested. At entry of this paper, Claims 1-20 and 23-24 will be pending for further consideration and examination in the application.

**'112, 1<sup>ST</sup> PARA. "WRITTEN DESCRIPTION" REJECTION - TRAVERSED**

Claims 1-20 have been rejected, under 35 USC '112, first paragraph, as failing to comply with the written description requirement, for the concerns listed within the item 5 on page 3 of the Detailed Action portion of the Office Action.

Traversal is appropriate, because the Office Action listed feature was sufficiently described/taught within Applicant's original disclosure.

More particularly, during the aforementioned examiner interview, it was indicated that a 132 affidavit would be filed having one skilled in the art attesting to Applicant's original disclosure having provided adequate written description for one skilled in the art. Applicant is attempting preparation of such 132 affidavit. Any delay that the Examiner can provide in holding off on acting upon the application again, so as to allow Applicant further time for preparation of the 132 affidavit to remove the 112, 1<sup>st</sup> para. rejection, would be greatly appreciated by Applicant and the undersigned.

In addition to the 132 affidavit, Applicant also respectfully reiterates the following previously-submitted arguments.

More particularly, attention is directed to the data emphasis circuit 110 and the illumination drive circuit 310 in Applicant's FIG. 1 (for example). The data emphasis circuit 110 is the circuit which compares new/previous display data, and outputs a control signal. Applicant's FIG. 2 shows that the data emphasis circuit 110 includes a data emphasis operational circuit 112, and a frame memory 111. Note

that picture signal "DATA" line in FIG. 2 goes to both the Frame Memory 111, and to the Data Emphasis Operation Circuit 112, and Frame Memory 111 output goes to the Data Emphasis Operation Circuit 112. Turning to textual disclosure, Applicant's original specification page 8, lines 6-9 teaches that, "The image data supplied from the image signal source is stored into a frame memory 111 and compared with the image data of the previous frame stored in the frame memory 111 pixel by pixel using the data emphasis operational circuit 112." Thus, a comparison control signal is produced.

Next, Applicant's original specification page 12, lines 10-13, in turn, teach, "...the drive circuit 310 for the illumination unit 300 can light the individual areas with their own different illumination start time and illumination "on" time in response to a control signal supplied from the display controller 110." Note in FIG. 1, the Control Signal is illustrated as going to the drive circuit 310. Thus, in this embodiment, Applicant's drive circuit 310 is Applicant's claimed "illumination control means". Applicant's specification only teaches one type of control signal output from the display controller 110, i.e., a new/previous display data comparison. Thus, Applicant's drive circuit 310 is responsive to a display data comparison control signal, and "can light the individual areas with their own different illumination start time and illumination "on" time in response" thereto. Clearly, the above-mentioned FIGS. and textual descriptions explicitly teach Applicant's invention.

Perhaps, the Examiner is setting forth a position with the 112, 1<sup>st</sup> para. rejection, that phrases (e.g., "in response to a result of the comparison of a new display data with a previous display data" and "in response to a result of the comparison of a new picture signal with a previous picture signal") used within a

claim must be found in the same words within the specification, or else a “written description” rejection is appropriate. Traversal is appropriate as follows.

**First**, MPEP 2163 (directed to “written description” guidelines) itself, explicitly states “...there is no *in haec verba* requirement...” (i.e., “in the same words” requirement) with respect to “written description”. MPEP 2163 continues to state simply that “...newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure.” MPEP 2163 states two other guidelines of relevance to the present rejection, i.e., “To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention”, and secondly, “...the PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not have recognized in the disclosure a description defined by the claims.” Here, the Office Action comments have erroneously focused in on Applicant’s second (FIG. 8) embodiment, whereas the above-mentioned FIGS./text explicitly teach Applicant’s claimed limitations. Accordingly, it is respectfully submitted that the Examiner has not met his/her initial burden to support the “written description” rejection.

In addition to the foregoing, Applicant’s foreign representative also supplies the following comments. More particularly, according to Embodiment 2, a new display data (new picture signal) and a previous display data (previous picture signal) from the flame memory 111 are inputted to the illumination lighting controller 122 shown in Fig. 8. The illumination lighting controller 122 performs the comparison of the previous display data and the new display data with each other (as in the data

emphasis operation circuit 112), and in response to the result thereof, controls an illumination start time and an illumination “on” time of each of the illumination unit.

As far as Embodiment 2, a skilled artisan would recognized that such comparison must be naturally performed in view of the following descriptions in the specification:

(1) Page 14, lines 13-15--“the average value of the individual gradation weighted with the number of pixels displayed for the individual areas is estimated in real time”.

This estimation cannot be performed unless the comparison is performed. It is thus apparent from Embodiment 1 and so on that the “on” time and the start time which are optimal for each individual gradation vary according to the new display data, the corresponding previous display data and the amount of overshoot. Therefore, in order to estimate the average value in real time, the comparison and the calculation of the amount of overshoot have to be performed in or by the illumination lighting controller 122 as in the data emphasis operational circuit 112.

(2) Page 14, lines 19-23---“the time integral values of the transmission factor for the frame in which the transmission factor changes due to the overshoot drive can be precisely identical to the time interval value of the transmission factor for the frame in which the transmission factor reaches a designated level and stays in a stable state”

The “start” time and the “on” time need to be controlled precisely in order to cause the integrated transmission factor for the frame in which the transmission factor is changed and the integrated transmission factor for the frame in which the transmission factor is stable to precisely coincide with each other. Further, in order to control the start time and the “on” time precisely, it is apparent that the previous

display data before the transmission factor is changed, the new display data after the transmission factor has been changed, and the amount of overshoot due to the comparison of the previous and new data with each other need to be calculated, respectively.

As readily seen from the above, the comparison of the previous display data and the new data with each other is performed also in or by the illumination lighting controller 122 (as in the data emphasis operational circuit 112) and the illumination start time and the illumination "on" time of each illumination unit is controlled in response to the result of the comparison.

Based upon the foregoing, reconsideration and withdrawal of the above-referenced rejection are respectfully requested. If the Examiner continues such rejection, the Examiner should provide "evidence or reasons why persons skilled in the art would not have recognized in the disclosure a description defined by the claims", as required by MPEP 2163, and especially in view of the 132 affidavit.

**35 USC §112, SECOND PARA. REJECTION-TRAVERSED/IMPROPER**

Claims 2, 3, 14 and 15 (and Claims 5, 6, 8, 9, 17 and 20) stand rejected under 35 USC §112, second paragraph, for the Office Action concerns listed at Items 6-8 on pages 3 and 4 of the Office Action. Applicant respectfully traverses the rejection, and respectfully submits that the rejection is unsupported for the following reasons.

**IT IS RESPECTFULLY SUBMITTED THAT THE EXAMINER IS INCORRECTLY IGNORING MPEP AND COURT GUIDANCE REGARDING**

**USAGE OF "SUBSTANTIALLY", I.E., BOTH THE USPTO AND THE COURTS  
EXPLICITLY CONDONE THE USAGE OF "SUBSTANTIALLY" AND DO NOT  
CONSIDER THE SAME TO BE INDEFINITE. IN FACT, THE VALIDATING USAGE  
EXAMPLE SET FORTH WITHIN THE MPEP IS VERY CLOSE TO THE PRESENT  
USAGE.**

More particularly, as indicated at MPEP §2173.05(b), the term "substantially" may very well be used in conjunction with another term to describe a particular characteristic of the claimed invention, and such terms are definite. As one very relevant example described in the MPEP, the Court in *Andrew Corp. v. Gabriel Electronics*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988) ruled that the limitation "which produces substantially equal E and H plane illumination patterns" was definite because one of ordinary skill in the art would know what was meant by "substantially equal."

Likewise, Applicant respectfully submits that the term "substantially identical" in the present application also is definite, since one of ordinary skill would know what such term means in context with at least Claims 2, 3, 14 and 15 (and Claims 5, 6, 8, 9, 17, 20 and 23). **More particularly, given that inventors/USPTO/court recognize that it is nearly impossible (e.g., because of manufacturing tolerances, calculation limitations, etc.) to make something "identical," the word "substantially" is very commonly used, and widely accepted, in patented claims to account for acceptable variation (understood by those skilled in the art).** In Applicant's disputed claims, such claims (e.g., claim 2, for example) recites "wherein the illumination control means controls the illumination start time and the

illumination "on" time of a corresponding one of the illumination areas of the illumination unit so that a time integral value of an amount of light passing through the corresponding pixel while a display characteristic is changing is substantially identical to a time integral value of an amount of light passing through the corresponding pixel while the display characteristic is stable."

Since practice of Applicant's invention may utilize illuminators which have light which may vary over time (e.g., because of voltage changes, temperature changes, etc), circuit components which may vary over time (e.g., because of voltage changes, temperature changes, etc.), sensors which may vary over time, etc., it is respectfully submitted that it is impractical and/or cost-prohibitive to have a practical embodiment where time integral values of changing pixels and stable pixels can be made exactly identical. Office Action comments cite an equality example as  $2=2$ . While it might be possible to have values identical (e.g.,  $2 = 2$ ) in the mathematical world, it is most likely impossible or impractical when real-world physical objects or processes are involved.

In continuing to uphold the §112, second paragraph rejection (08 June 2006 Advisory Action; page 3), the Examiner states (that the "precise range of tolerances, limitations" regarding "substantially" are not within the record of the application. Traversal is appropriate, as the above-cited *Andrew Corp. v. Gabriel Electronics*, the court addressed "not precisely defined" situations. More particularly, the *Andrew Corp.* (citing *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1546-47, 221 USPQ 1, 7 (Fed. Cir. 1984)) stated,

Beckman attacks the claims as indefinite, primarily because "close proximity" is not specifically or precisely defined. As stated in



the district court's Memorandum Decision, "to accept Beckman's contention would turn the construction of a patent into a mere semantic quibble that serves no useful purpose."

The *Andrew Corp.* further cited MPEP 706.03(d), which states,

[An examiner] should allow claims which define patentable novelty with a reasonable degree of particularity and distinctness. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire.

In view of the above, it can be seen that use of the word "substantially" within claims is condoned by the USPTO and courts, even in instances where such is not precisely defined. Accordingly, Applicant respectfully submits requests reconsideration and withdrawal of the rejection under 35 USC §112, second paragraph.

More particularly, as indicated at MPEP §2173.05(b), the term "substantially" may very well be used in conjunction with another term to describe a particular characteristic of the claimed invention, and such terms are definite. As one very relevant example described in the MPEP, the Court in *Andrew Corp. v. Gabriel Electronics*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988) ruled that the limitation "which produces substantially equal E and H plane illumination patterns" was definite because one of ordinary skill in the art would know what was meant by "substantially equal."

Likewise, Applicant respectfully submits that the term "substantially identical" in the present application also is definite, since one of ordinary skill would know what such term means in context with Claims 2, 3, 14 and 15 (and Claims 5, 6, 8, 9, 17 and 20). **More particularly, given that inventors/USPTO/court recognize that it**

is nearly impossible (e.g., because of manufacturing tolerances, calculation limitations, etc.) to make something "identical," the word "substantially" is very commonly used, and accepted, in patented claims to account for acceptable variation. The Examiner is respectfully requested to access MPEP §2173.05(b) regarding acceptability of use of the term "substantially".

In view of the above, Applicant respectfully submits requests reconsideration and withdrawal of the rejection under 35 USC §112, second paragraph.

#### **REJECTION UNDER 35 USC §103 - TRAVERSED**

The 35 USC §102 rejection of Claims 1-20 stand unpatentable over Okumura *et al.* (US 6,115,018 A) in view of Chen (US 5,592,193 A) is respectfully traversed. Such rejection has been made obsolete by the present clarifying amendments to the claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude further rejection of the claims.

All descriptions of Applicants disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated herein by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed.

As set out in the decision *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988), the court points out that the PTO has the burden under §103 to establish a *prima facie* case of obviousness, and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill

in the art would lead that individual to combine the relevant teachings of the references. However, the cited prior art does not adequately support a §103 obviousness-type rejection because it does not, at minimum, disclose (or suggest) the following limitations of Applicant's clarified claims.

More particularly, as set forth during the examiner interview, the applied references fail in at least two ways: 1.) Because one of the teachings/objectives of the primary reference would be destroyed by the Examiner's suggested combination, there is actually no (and even negative) suggestion to combine the references; and, 2) since neither reference teaches using a result of prior/present frame comparison to control illumination light start/on times, even if combined, the art would not have disclosed or suggested Applicant's claimed invention. Applicant supplements the previously-submitted arguments as follows (see especially the large italicized areas ahead).

More particularly, Applicant's disclosed and claimed combination invention is directed toward liquid crystal display arrangements (e.g., apparatus, methods) allowing generation/display of high quality motion pictures with less after image when displaying motion pictures, and with less fuzzy images due to equalization. Applicant found that such could be accomplished by comparing a prior image together with a present image, and then adjusting both of an LCD's illumination start/on times responsive to a result of the comparison. Accordingly, in terms of claim language, Applicant's independent Claims 1 and 11, for example, contains the features/limitations: "illumination control means for controlling an illumination start time and an illumination "on" time of each of the illumination areas of the

illumination unit in response to a result of the comparison of a new display data with a previous display data."

Regarding rebuttal of the applied art, Okumura et al. (US 6,115,018 A) absolutely fails as a reference. More particularly Okamura et al. is directed to an active matrix liquid crystal display device arrangement, wherein a differing (voltage) type of adjustment appears to be conducted, and in a differing way (from Applicant's claimed invention). *That is, while Okumura et al.'s background section (column 1) mentions prior art use of a frame memory and subtractor arrangement to determine a difference between a frame and a next-frame, other parts of Okumura et al. very strongly teach that a frame memory arrangement should NOT be used (see for example, col. 1, lines 36-41; col. 3, lines 6-8 and lines 42-44). It is important to note that one of the main reasons (col. 1, lines 40-41) that Okumura et al. teaches away from using a frame memory is to improve power consumption. Further, it is important to note that Okumura et al.'s prior art frame-memory/subtractor arrangement is used to emphasize a pixel signal, not for controlling start/on times of an illumination light source.*

Further, even beyond the frame-memory/subtractor disclosure, Okamura et al. still fails in at least two (2) ways. First, it is respectfully noted that Okumura et al. is correcting "voltage," as opposed to Applicant's "start/on times." Second, Okamura et al. does not teach timing control, i.e., Okumura et al.'s Column 8, lines 7 and 8, clearly states that correction is done at "arbitrary timing." Clearly, Okumura et al. teaches away from Applicant's disclosed and claimed invention which is directed explicitly to timing control.

Chen (US 5,592,193 A) is directed to a backlighting arrangement for an LCD display panel realizing improved efficiencies. In order to accomplish the same, the Chen arrangement utilizes a plurality of lights along the backlighting arrangement, and actuates each of the light sources in a sequential manner synchronously (e.g., from top to bottom) for illuminating only that portion of the display panel providing a video image at a given time (see sequence of Chen's FIGS. 4-6). Chen's column 5, lines 3-6 text states that the **"downward "ON" sequencing of the light-emitting zones 64a-64j is performed synchronously with the sequential actuation of the LCD panel's scanning electrode arrays."** In short, Chen's disclosure (like Okamura et al.'s) **does not teach adjusting both of an LCD's illumination start/on times responsive to a result of the comparison.** Chen (like Okamura et al.) has a **power savings objective**, i.e., see Chen's col. 2, 49-53.

**Turning now to traversal of combination of the references, it is respectfully submitted that because one of the teachings/objectives of the primary reference would be destroyed by the Examiner's suggested combination, there is actually no (and even negative) suggestion to combine the references.** More particularly, as mentioned above, both applied references have an objective to improve power savings, and **especially Okamura et al. teaches that a frame memory/subtractor arrangement should NOT be used because of its disadvantageous power consumption.** If the Examiner now argues that the applied references suggest that a comparison (i.e., a frame-memory/comparator) arrangement be used, then it is respectfully submitted that **a primary objective/teaching of Okamura et al. would be destroyed or ignored.** It

**is well settled in U.S. patent law that if a primary objective/teaching of a reference would be destroyed or ignored by the alleged combination, then there would be no (or even negative) suggestion provided by the references themselves for the alleged combination.**

**FURTHER, THE EXAMINER CONTINUES TO IGNORE THE MAJOR DEFICIENCIES WITH RESPECT TO THE APPLIED REFERENCES, I.E., NEITHER CONTROLS ILLUMINATION SOURCE START/ON TIMES RESPONSIVE TO A RESULT OF COMPARISON.** Given that neither reference discloses an illumination source start/on time adjustment responsive to comparison of a frame/next-frame, it is respectfully submitted that the applied references, whether taken respectively alone, or taken in combination, would not have disclosed or suggested Applicant's invention.

That is, at best, combination would only logically suggest Okamura et al's "voltage" level controlling arrangement, with Chen's arrangement of the **"downward "ON" sequencing of the light-emitting zones 64a-64j performed synchronously with the sequential actuation of the LCD panel's scanning electrode arrays."**

*That is, only Chen's disclosure teaches an arrangement for "ON" sequencing of light zones, and there is no logical suggestion provided by either of the applied references to stray/modify from such light sequencing arrangement. It is respectfully submitted that any suggestion to modify Chen's light zone sequencing arrangement towards Applicant's claimed invention, would only be derived from an improper hindsight reconstruction approach attempting to use Applicant's own teachings/disclosure as suggestion to modify the references.*

In addition to the foregoing, the following additional remarks from Applicant's foreign representative are also submitted in support of traversal of the rejection and patentability of Applicant's claims.

The word "response" in this application is indicative of the time change in the transmission factor for a certain area when the display of the liquid crystal display device is changed. The word is used when the display is changed from white to black or when a moving image is displayed. Therefore, it is not used in connection with the movement of the scanning line.

Chen discloses an illumination unit having a plurality of illumination areas illuminating corresponding areas of the liquid crystal display, respectively (see Fig. 3, elements 64, 64a-j, and 62), and means for controlling the individual areas for illumination (see Fig. 8, element 66). However, Chen fails to disclose or teach "controlling an illumination start time" and an illumination "on" time of each of the illumination areas of the illumination unit in response to a response of the liquid crystal display part" as alleged by the Examiner.

The Examiner refers to column 4, line 28 to column 5, line 6 of Chen in connection with its illumination unit. In Chen, however, the description concerning the control of the illumination unit 64a-j is merely made at column 4, line 55 to column 5, line 6. Especially, at column 4, line 67 to column 5, line 6, the following is described:

"The display/backlight panel synchronized driver 64 (this should be read 66) actuates each of the light-emitting zone 64a-64j in a sequential manner downwardly in the direction of arrow 74. This downward "ON" sequencing of the light-emitting

zones 64a-64j is performed synchronously with sequential actuation of the LCD panel's scanning electrode arrays."

As readily seen, though Chen discloses that the "ON" sequencing of the light-emitting zones 64a-64j is synchronized with the sequential actuation of the LCD panel's scanning electrode arrays, it does not teach that the "ON" sequence is changed according to not only the time change in the transmittance (transmission factor) but also the result of the comparison of a new display data and a previous display data.

The "ON" sequencing corresponds to "a start time" of the present invention. Therefore, Chen teaches nothing about the feature of controlling an "on" time of the present invention. This is clear in view of the fact that, although in the description in column 4, line 23 to column 5, line 6 pointed out by the Examiner the term "ON" appears 8 times, it has nothing to do with the "on" time of the present invention. Incidentally, "ON" in column 4, line 40; column 4, line 44 and column 5, line 3 relates only to an "ON".state of the liquid crystal and not an "on" time or an "on" state of the light-emitting zone 64a-j. Further, "ON" in column 5, line 3 relates only to the "ON" sequencing.

As to claims 2 et seq., the Examiner indicates, while referring to column 4, line 28 to column 5, line 8 of Chen, that the illumination control means controls the illumination start time and the illumination "on" time of a corresponding of the illumination area of the illumination unit so that a time integral value of an amount of light passing through the corresponding pixel while a display characteristics are changing is substantially identical to a time integral value of an amount of light passing through the corresponding pixel while the display characteristics are stable.



However, Chen fails to teach or suggest, in the above location pointed out by the Examiner, means for controlling the “on” time and the feature “time integral value of an amount of light passing through the corresponding pixel” of the present invention.

As a result of all of the foregoing, it is respectfully submitted that the applied art would not support a §103 obviousness-type rejection of Applicant’s claims. Accordingly, reconsideration and withdrawal of such §103 rejection, and express written allowance of all of the rejected claims, are respectfully requested.

#### **EXAMINER INVITED TO TELEPHONE**

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner’s Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

#### **RESERVATION OF RIGHTS**

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to

any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

### CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR 1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (Case No. 503.39221CX1) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP



Paul J. Skwierawski  
Registration No. 32,173

PJS/slk  
(703) 312-6600